



2570
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RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/028,952

Source: DIPE

Date Processed by STIC: 1-23-03

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER
VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
Or
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to : U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002

Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER:

10/028,952

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics
 Wrapped Aminos The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."

- 2 Invalid Line Length The rules require that a line not exceed 72 characters in length. This includes white spaces.

- 3 Misaligned Amino
 Numbering The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.

- 4 Non-ASCII The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.

- 5 Variable Length Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.

- 6 PatentIn 2.0
 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.

- 7 Skipped Sequences
 (OLD RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
 (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
 (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 This sequence is intentionally skipped

 Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.

- 8 Skipped Sequences
 (NEW RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence.
 <210> sequence id number
 <400> sequence id number
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- 9 ✓ Use of n's or Xaa's
 (NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.
 Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
 In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

- 10 Invalid <213>
 Response Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial *anything*, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or contains Artificial.

- 11 Use of <220> Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
 Use of <220> to <223> is MANDATORY if <213> "Organism" response contains the word "Artificial" or "Unknown." Please explain source of genetic material in <220> to <223> section, i.e., why you chose Artificial or Unknown. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)

- 12 PatentIn
 "bug" Please do not use "Copy to Disk" function of PatentIn. In PatentIn 2.x it causes a corrupted file and in PatentIn 3.x you may lose your hard returns in the sequence listing. Instead, please use "Windows Explorer" or any other manual means to copy file to floppy disk.



*Does Not Comply
Corrected Diskette Needed
See Additional pages 1-13*

OIPE

RAW SEQUENCE LISTING

DATE: 01/23/2003

PATENT APPLICATION: US/10/028,952

TIME: 13:55:27

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 7 <130> FILE REFERENCE: 4273.3USW1
 9 <140> CURRENT APPLICATION NUMBER: 10/028,952
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 13 <151> PRIOR FILING DATE: 2000-06-19
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DATE: 01/23/2003

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207 gcctgctctg tgctccccac tccatttctc tgtccctctg cctgggctat gggaagtggg 2160
208 gatgcagatg gccaaagctc caccctgggt attcaaaaac ggcagacaca acatgttcct 2220
209 ccacgcggct cactcgatgc ctgcaggccc cagtgtgtgc ctcaactgat tctgacttca 2280
210 ggaaaagtaa aaaaaaaaaa aaaaaactcg agaagctttg gacttcttcg cca 2333

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/028,952

DATE: 01/23/2003

TIME: 13:55:27

Input Set : A:\4273-3u1.app

Output Set: N:\CRF4\01232003\J028952.raw

```

213 <210> SEQ ID NO: 5
214 <211> LENGTH: 21
215 <212> TYPE: DNA
216 <213> ORGANISM: Homo sapiens
218 <400> SEQUENCE: 5
219 ggcgcggccg ggcgcgaccc g 21
222 <210> SEQ ID NO: 6
223 <211> LENGTH: 21
224 <212> TYPE: DNA
225 <213> ORGANISM: Homo sapiens
227 <400> SEQUENCE: 6
228 gcaatctcag cgcactgctg c 21
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232 <211> LENGTH: 2843
233 <212> TYPE: DNA
234 <213> ORGANISM: Homo sapiens
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239 aggccctgcc acaggcaggc aggcaggcag gcaggcagaa agacaacagc tgtattatgt 180
240 tcttctcagg gtaggaagca aaaataacag aatacagcac ttaattaatt tttttttttt 240
241 ccttcggacg gagtttctact ctgtgtgccc acgctggagt gcagtggcac catctcggct 300
242 caccgcaacc tccacctccc gcgttcaagc gattctcctg cctcagcctc ctgagtagct 360
243 gggattacag ggaggagcca ccacacccag ctgattttgt attgttagta gagacggcat 420
244 ttctccatgt gggtcaggct ggtctcgaac tggcgacccc agtggatctg cccgccccgg 480
245 cctcccaaag tgctggggtg acaggcgtga gccatcgtga ctggccggct acgtttattt 540
246 atttattttt ttaattattt tacttttttt tagttttcca ttttaatacta tttatttatt 600
247 tacatttatt tattttattt tttatttact tattttattt ttttcgagac agactctcgc 660
248 tctgtgccc aggttgagt gcagcggcgt gatctcggct cactgcaacg tccgcctccc 720
249 gggttcacgc cattctcctg cctcagcctc ccaagtagct gggactacag gcgcccggca 780
250 ccgtgccccg ctaacttttt gtattttgag tagagatggg gtttcaactgt ggtagccagg 840
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254 ccgtgttgcc aaggcttgga ccgagggatc caccggccct cggcctccca aaagtgcggg 1080
255 gatgacaggc gcgagcctac cgcgcccggg ccccccttt ccccttcccc cgcttgtctt 1140
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257 aaatttgga cgtcagcttc tggcctcacg gactctgagc cgaggagtcc cctggtctgt 1260
258 ctatcacagg accgtacacg taaggaggag aaaaatcgta acgttcaaag tcagtcattt 1320
259 tgtgatacag aaatacacgg attcacccaa aacacagaaa ccagtctttt agaaatggcc 1380
260 ttagccctgg tgtccgtgcc agtgattctt ttcggtttgg acctgactg agaggattcc 1440
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262 ctgcgtcccc ccaggagccc tggctcatta gttgtgggga tcgccttgga gggcgcgggtg 1560
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266 gcaactgtgt ctctccacc gcccccggcc ccacctcaa gttcctccct cccttggtgc 1800
267 ctaggaaatc gccactttga cgaccgggtc tgattgacct ttgatcaggc aaaaacgaac 1860
268 aaacagataa ataaataaaa taacacaaaa gtaactaact aaataaaata agtcaatata 1920

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/028,952

DATE: 01/23/2003
TIME: 13:55:28

Input Set : A:\4273-3u1.app
Output Set: N:\CRF4\01232003\J028952.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:9; Xaa Pos. 16,41,44,48,64,96,112,118,131,144,160,168,173,192,198,208
Seq#:9; Xaa Pos. 227,240,256,264,276,288,302,304,336,352,383,399,431,447
Seq#:9; Xaa Pos. 479,495,520,522,527,543,544,552,556,558,575,591,602,622
Seq#:9; Xaa Pos. 623,639,671,687,719,735
Seq#:10; Xaa Pos. 10,13,32,48,80,87,96,100,128,137,142,144,166,176,192,196
Seq#:10; Xaa Pos. 224,233,240,245,270,272,288,320,336,352,353,363,367,368
Seq#:10; Xaa Pos. 371,383,384,385,410,416,432,438,464,480,487,495,496,497
Seq#:10; Xaa Pos. 506,512,513,522,528,550,554,560,574,576,589,591,608,624
Seq#:10; Xaa Pos. 652,656,657,662,663,672,702,704,718,720,723,734,743,752

VERIFICATION SUMMARY

DATE: 01/23/2003

PATENT APPLICATION: US/10/028,952

TIME: 13:55:28

Input Set : A:\4273-3u1.app

Output Set: N:\CRF4\01232003\J028952.raw

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:500 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ ID#:9
L:500 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:506 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:32
L:509 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:48
L:515 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:80
L:518 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:96
L:521 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:112
L:524 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:128
L:527 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:144
L:530 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:160
L:533 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:176
L:536 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:192
L:542 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:224
L:545 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:240
L:548 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:256
L:551 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:272
L:554 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:288
L:560 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:320
L:563 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:336
L:569 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:368
L:572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:384
L:578 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:416
L:581 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:432
L:587 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:464
L:590 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:480
L:596 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:512
L:599 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:528
L:602 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:544
L:605 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:560
L:608 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:576
L:611 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:592
L:614 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:608
L:617 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:624
L:623 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:656
L:626 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:672
L:632 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:704
L:635 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:720
L:899 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ ID#:10
L:899 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:902 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:16
L:905 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:32
L:911 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:64
L:914 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:80
L:917 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:96
L:920 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:112
L:923 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:128
L:929 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:160

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/028,952

DATE: 01/23/2003

TIME: 13:55:28

Input Set : A:\4273-3u1.app

Output Set: N:\CRF4\01232003\J028952.raw

L:932 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:176
L:935 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:192
L:938 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:208
L:941 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:224
L:944 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:240

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See item # 9 on Error Summary
Sheet. Each "Xaa" requires feature
containing numeric identifiers
<220>, <221>, <222>, and <223>.

If all Xaa's in the sequence
are equal to the same thing, one
feature with a range of the whole
sequence in numeric identifier <222>
is all that is necessary.

Example:

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<222> (1)... (760)

<223> Xaa = any amino acid.

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Glu Arg Ala Trp Arg Asn Gln Arg Gly Lys Lys Thr Leu Leu Ser Thr
20 25 30

Leu Val Trp His Gly Glu Glu Thr Xaa Glu Val Xaa Asn Lys Trp Xaa
35 40 45

Ala Pro Gly Ala Pro Pro Val Ser Pro Arg Gly Ala Arg Gly Gly Xaa
50 55 60

Arg Pro Cys Gly Pro Pro Val Lys Tyr His Tyr Ser Asp Arg Phe Thr
65 70 75 80

Asp Pro Val Arg Arg Gly Gly Glu Pro Arg Gly Ala Leu Ala Ser Xaa
85 90 95

Ala Lys Arg Pro Ala Ala Arg Arg Pro Gly Ala Thr Arg Ser Gly Xaa
100 105 110

Ala Arg Trp Gly Val Xaa Leu Gly Arg Tyr Thr Cys Gln Thr Val Gln
115 120 125

Val Ser Xaa Gly Glu Leu Arg Glu Asp Arg Asn Leu Pro Trp Ser Xaa
130 135 140

Arg Ala Lys Ala Arg Leu Ile Leu Ile Phe Ser Thr Asn Thr Asp Xaa
145 150 155 160

Ser Gly Ala Ser Arg Ser Phe Xaa Pro Phe Gly Phe Xaa Ala Gly Val
165 170 175

Arg Lys Val Thr Thr Gly Ile Thr Gly Leu Trp Arg Pro Ser Val Xaa
180 185 190

Ser Asp Val Ala Phe Xaa Ser Phe Asp Val Gly Ser Ser Tyr His Xaa
195 200 205

Ala Glu Phe Thr Lys Arg Trp Ile Val His Pro Leu Ile Gly Asn Ser
210 215 220

Trp Asp Xaa Thr Val Val Arg Gln Val Ser Phe Thr Leu Leu Met Xaa
225 230 235 240

Cys Cys Cys His Gly Asn Pro Ala Gln Tyr Glu Arg Asn Arg Arg Xaa

				245					250					255			
His	Leu	Val	Tyr	Val	Leu	Gly	Xaa	Gly	Ala	Asn	Gly	Ala	Lys	Leu	Ser		
			260					265					270				
Val	Gly	Leu	Xaa	Leu	Asn	Ala	Ser	Lys	Ser	Glu	Ser	Arg	Pro	Gly	Xaa		
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Thr	Ile	Arg	Gln	Arg	Arg	Gly	Ala	Ser	Val	Gly	Leu	Gly	Xaa	Pro	Xaa		
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Gly	Arg	Ala	Arg	Ala	Pro	Pro	Arg	Ala	Gly	Thr	Gly	Val	Arg	Cys	Xaa		
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Val	Pro	Phe	Val	Leu	Gly	Asn	Gly	Ala	Arg	Pro	Glu	Arg	Arg	Pro	Xaa		
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Ser	Ser	Pro	Gln	Pro	Gly	Lys	Leu	Arg	Ser	Pro	Phe	Leu	Gln	Xaa	Gln		
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Leu	Thr	Gln	Pro	Glu	Thr	His	Phe	Gly	Arg	Glu	Pro	Ala	Ala	Xaa	Ser		
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Arg	Pro	Arg	Ala	Asp	Leu	Pro	Ala	Glu	Glu	Pro	Ala	Pro	Ser	Pro	Pro		
				405					410					415			
Cys	Leu	Val	Gln	Ala	Glu	Glu	Glu	Ala	Val	Tyr	Glu	Glu	Pro	Xaa	Glu		
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Gln	Glu	Thr	Phe	Tyr	Glu	Gln	Pro	Pro	Leu	Val	Gln	Gln	Gln	Xaa	Gly		
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Ser	Glu	His	Ile	Asp	His	His	Ile	Gln	Gly	Gln	Gly	Leu	Ser	Gln	Gly		
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Leu	Cys	Ala	Arg	Ala	Leu	Tyr	Asp	Tyr	Gln	Ala	Ala	Asp	Asp	Xaa	Glu		
465					470				475					480			
Ile	Ser	Phe	Asp	Pro	Glu	Asn	Leu	Ile	Thr	Gly	Ile	Glu	Val	Xaa	Glu		
				485					490					495			
Gly	Trp	Trp	Arg	Gly	Tyr	Gly	Pro	Asp	Gly	His	Phe	Gly	Met	Pro	Ala		
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Pro	Ser	Gln	Thr	Trp	Leu	Pro	Tyr	Cys	Trp	Lys	Arg	Arg	Pro	Xaa	Xaa		
	530					535					540						
His	Ser	Ala	Leu	Phe	Gln	Glu	Xaa	Asp	Pro	Gln	Xaa	Gly	Xaa	Leu	Arg		

545 550 555 560

Ala Pro Ser Gly Leu Ala Asp Ser Ala Cys His Pro Lys Cys Xaa Asn
565 570 575

Gly Leu Val Ile Pro Thr His Pro Ser Cys Ile Pro Arg Pro Xaa Thr
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Arg Val Asp His Gly Gly Leu Ala Ala Gly Asn Leu Ser Cys Xaa Leu
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Leu Cys Ala Pro His Ser Ile Ser Leu Ser Leu Cys Leu Gly Gly Lys
690 695 700

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Asp Thr Thr Cys Ser Ser Thr Arg Leu Thr Arg Cys Leu Gln Xaa Val
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20 25 30

Arg Arg Pro Cys Gly Pro Pro Val Lys Tyr His Tyr Ser Asp Arg Xaa
35 40 45

Thr Asp Pro Val Arg Arg Gly Gly Glu Pro Arg Gly Ala Leu Ala Gly
50 55 60

Ala Lys Arg Pro Ala Ala Arg Arg Pro Gly Ala Thr Arg Ser Gly Xaa
65 70 75 80

Ser Ala Arg Trp Gly Val Xaa Leu Gly Arg Tyr Thr Cys Gln Thr Xaa
85 90 95

Gln Val Ser Xaa Gly Glu Leu Arg Glu Asp Arg Asn Leu Pro Trp Arg
100 105 110

Arg Ala Lys Ala Arg Leu Ile Leu Ile Phe Ser Thr Asn Thr Asp Xaa
115 120 125

Glu Ser Gly Ala Ser Arg Ser Phe Xaa Pro Phe Gly Phe Xaa Ala Xaa
130 135 140

Val Arg Lys Val Thr Thr Gly Ile Thr Gly Leu Trp Arg Pro Ser His
145 150 155 160

Ser Asp Val Ala Phe Xaa Ser Phe Asp Val Gly Ser Ser Tyr His Xaa
165 170 175

Glu Ala Glu Phe Thr Lys Arg Trp Ile Val His Pro Leu Ile Gly Xaa
180 185 190

Ser Trp Val Xaa Thr Val Val Arg Gln Val Ser Phe Thr Leu Leu Met
195 200 205

Cys Cys Cys His Gly Asn Pro Ala Gln Tyr Glu Arg Asn Arg Arg Xaa
210 215 220

Arg His Leu Val Tyr Val Leu Gly Xaa Gly Ala Asn Gly Ala Lys Xaa
225 230 235 240

Ser Val Gly Leu Xaa Leu Asn Ala Ser Lys Ser Glu Ser Arg Pro Gly

245										250					255						
Thr	Ile	Arg	Gln	Arg	Arg	Gly	Ala	Ser	Val	Gly	Leu	Gly	Xaa	Pro	Xaa						
			260					265					270								
Pro	Arg	Leu	Ser	Pro	Pro	Ala	Gly	Arg	Pro	Pro	Pro	Ser	Thr	Arg	Xaa						
		275					280					285									
Arg	Ala	Gly	Gly	Arg	Val	Pro	Arg	Arg	Ala	Pro	Gly	Pro	Gly	Ser	Ala						
	290					295					300										
Glu	Cys	Pro	Ser	Ser	Trp	Glu	Thr	Gly	Arg	Gly	Arg	Lys	Gly	Gly	Xaa						
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Pro	Leu	Ala	Arg	His	Ala	Pro	His	Val	Arg	Ala	Arg	Ala	Glu	Phe	Xaa						
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Ser	Ser	Thr	Ile	His	Asn	Arg	His	Thr	Ser	Ala	Cys	Ile	Phe	Met	Xaa						
			340					345					350								
Xaa	Ile	Leu	Phe	Leu	Trp	Val	Asp	Ile	Gln	Xaa	Trp	Asp	Cys	Xaa	Xaa						
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Thr	Trp	Xaa	Phe	Tyr	Phe	Trp	Phe	Ile	Glu	Lys	Ser	Ser	Tyr	Xaa	Xaa						
	370					375					380										
Xaa	Arg	Leu	Tyr	Lys	Phe	Thr	Ser	Leu	Pro	Ser	Asp	Phe	Phe	Lys	Glu						
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Arg	Met	Val	Trp	Arg	Asn	Ala	Pro	His	Xaa	Tyr	Pro	Pro	Phe	Thr	Xaa						
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Leu	Leu	Gln	Asn	Asp	Phe	Lys	Gly	Tyr	Arg	Tyr	Leu	Gln	Val	Ser	Xaa						
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Arg	Gln	Ile	Glu	Tyr	Xaa	Asn	Phe	Cys	Ile	Arg	Gly	Thr	Asp	Phe	Ile						
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Gln	Ser	Cys	Met	Asn	Lys	Asp	Lys	Cys	Ser	Arg	Asp	Leu	Gln	Ser	Xaa						
	450					455					460										
Asn	Trp	Lys	Ser	Gln	Met	Lys	Tyr	Ile	Ser	Ser	Ser	Thr	Thr	Ser	Xaa						
465					470					475					480						
Ser	Thr	Glu	Leu	Ala	Leu	Xaa	Ser	Ser	Leu	Ile	Pro	Thr	Tyr	Xaa	Xaa						
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Xaa	Lys	Gly	Phe	Ile	Ser	Asn	Ile	Leu	Xaa	Gly	Ile	Lys	Ile	Lys	Xaa						
			500					505					510								
Xaa	Val	Lys	Leu	Phe	Ser	Leu	Ala	Phe	Xaa	Phe	Gln	Asn	Ile	Lys	Xaa						
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Pro	Ser	Ile	Gly	His	Leu	Tyr	Cys	Thr	Arg	His	Cys	Val	Cys	His	Ser						
	530					535					540										
Lys	Met	Phe	Ser	Trp	Xaa	Cys	Ser	Gln	Xaa	Phe	Cys	Arg	Val	Arg	Xaa						

545		550		555		560									
Ser	Leu	Thr	Val	Val	Arg	Leu	Phe	Ser	Lys	Arg	Asn	Leu	Xaa	Thr	Xaa
				565					570					575	
Phe	Asn	Leu	Arg	Lys	Val	Ser	Asn	Arg	Thr	Arg	Thr	Xaa	Thr	Xaa	Ile
			580					585					590		
Thr	Leu	Gln	Ile	Ser	Pro	Tyr	His	Thr	Ala	Ser	Thr	Cys	Ala	Cys	Xaa
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Leu	Ile	Pro	Gly	Ser	Cys	Tyr	Phe	Pro	Phe	Tyr	Phe	Leu	Ser	Leu	Xaa
	610					615					620				
Thr	Thr	Pro	Phe	Ser	Pro	His	Phe	Phe	Ser	Phe	Phe	Leu	Ile	Val	Tyr
625					630					635					640
Ile	Thr	Asn	Thr	Cys	Leu	Ser	Glu	Gln	Leu	Ile	Xaa	His	Lys	Arg	Xaa
			645						650					655	
Xaa	Ser	Thr	Gly	Glu	Xaa	Xaa	Leu	Ile	Pro	Val	Ile	Leu	Ala	Leu	Xaa
			660					665					670		
Ala	Lys	Ala	Gly	Arg	Ser	Leu	Glu	Ser	Arg	Val	Arg	Asp	Gln	Pro	Gln
		675					680					685			
His	Gly	Glu	Thr	Leu	Ser	Leu	Gln	Lys	Asn	Thr	Lys	Ile	Xaa	Pro	Xaa
	690					695					700				
Val	Leu	Ala	His	Thr	Cys	Ser	Leu	Ser	Tyr	Ser	Glu	Gly	Xaa	Gly	Xaa
705					710					715					720
Ile	Asp	Xaa	Ala	Gln	Glu	Val	Glu	Ala	Ala	Ala	Val	Arg	Xaa	Asp	Ala
			725					730						735	
Ile	Ala	Leu	Gln	Pro	Gly	Xaa	Glu	Arg	Glu	Thr	Leu	Ser	Gln	Lys	Xaa
		740						745					750		

Lys